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(54) Uv/fluorescence detecting apparatus and sensing method thereof

(57) Providing a UV/fluorescence detecting apparatus and a sensing method thereof which is capable of detecting a fluorescent pattern and an ultraviolet reflection light and small and cheap. Further, providing a UV/fluorescence detecting apparatus and a sensing method thereof capable of detecting a fluorescence of a specific color. The UV/fluorescence detecting apparatus includes a sensor comprising a light source portion including an ultraviolet ray LED for emitting ultraviolet ray through an opening window portion and an ultraviolet ray monitor provided beside this ultraviolet ray LED, a

light detector portion disposed in a chamber partitioned with a partition plate for receiving an incident light impinging through the opening window portion, the partition plate 6a for partitioning between the light source portion and the light detector portion; a transparent body provided on the both opening window portions, a first filter provided on a window portion on projection side of the ultraviolet ray for allowing the light of an ultraviolet ray region thereof to pass through and a second filter provided on a window portion on light receiving side of the incident light for allowing the light of a visible light region thereof to pass through.

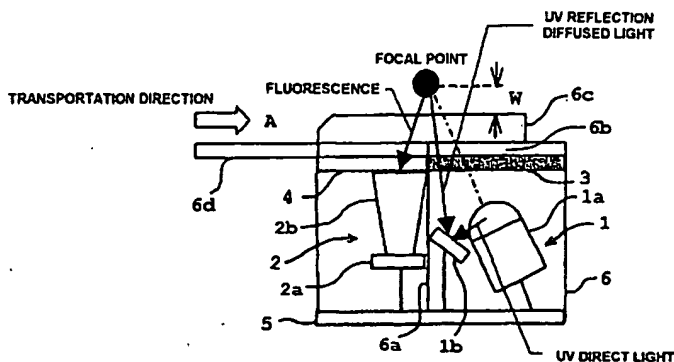


FIG. 3



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EUROPEAN SEARCH REPORT

Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y	US 5 640 463 A (CSULITS FRANK M) 17 June 1997 (1997-06-17) * abstract * * column 2, line 15 - line 24 * * column 3, line 55 - column 4, line 19 * * column 5, line 15 - line 60 * ---	1,3,4,6, 9,11	607D7/12
Y	EP 0 996 099 A (BUNDESDRUCKEREI GMBH) 26 April 2000 (2000-04-26) * abstract * * column 2, paragraph 10 * * column 4, paragraph 19 - paragraph 20 * ---	1,3,4,6, 9,11	
A	US 5 915 518 A (HOPWOOD JOHN GOEFFREY ET AL) 29 June 1999 (1999-06-29) * abstract * -----	1,3,4,6, 9,11	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			607D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 13 January 2004	Examiner Bohn, P
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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ON EUROPEAN PATENT APPLICATION NO.**

EP 01 12 9446

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13-01-2004

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5640463 A	17-06-1997	AU 1994195 A	25-09-1995
		AU 3508495 A	26-04-1996
		CA 2178199 A1	11-04-1996
		CA 2184807 A1	14-09-1995
		CA 2188700 A1	05-04-1996
		CA 2188701 A1	05-04-1996
		CA 2215850 A1	14-09-1995
		CA 2215853 A1	14-09-1995
		CA 2215857 A1	14-09-1995
		CA 2215864 A1	14-09-1995
		CA 2215869 A1	14-09-1995
		CA 2215886 A1	18-07-1996
		CA 2215887 A1	18-07-1996
		CA 2234393 A1	14-09-1995
		CA 2316138 A1	14-09-1995
		CA 2357502 A1	14-09-1995
		CA 2379146 A1	14-09-1995
		DE 69527136 D1	25-07-2002
		DE 69527136 T2	19-12-2002
		DE 69527546 D1	29-08-2002
		DE 69527546 T2	20-03-2003
		DE 69527552 D1	29-08-2002
		DE 69527552 T2	20-03-2003
		DE 69527806 D1	19-09-2002
		DE 69527806 T2	12-12-2002
		DE 69527811 D1	19-09-2002
		DE 69527811 T2	10-04-2003
		DE 69529454 D1	27-02-2003
		DE 69529454 T2	25-09-2003
		DE 69530868 D1	26-06-2003
		DE 69530873 D1	26-06-2003
		EP 1022694 A2	26-07-2000
		EP 1107167 A1	13-06-2001
		EP 1158469 A2	28-11-2001
		EP 1209632 A2	29-05-2002
		EP 1202224 A2	02-05-2002
		EP 1227447 A2	31-07-2002
		EP 1246139 A2	02-10-2002
		EP 0749611 A1	27-12-1996
		EP 0731954 A1	18-09-1996
		EP 0807904 A2	19-11-1997
		EP 0807905 A2	19-11-1997
		EP 0807906 A2	19-11-1997
		EP 0805408 A2	05-11-1997
		EP 0814437 A2	29-12-1997
		EP 0814438 A2	29-12-1997

EPO FORM P4459

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 12 9446

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The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

13-01-2004

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 5640463	A		EP	0814439 A2	29-12-1997
EP 0996099	A	26-04-2000	DE	19848858 A1	27-04-2000
			EP	1291828 A2	12-03-2003
			EP	0996099 A2	26-04-2000
			JP	2000322621 A	24-11-2000
US 5915518	A	29-06-1999	GB	2291705 A	31-01-1996
			AU	1324895 A	01-08-1995
			CA	2179994 A1	13-07-1995
			CN	1141682 A , 8	29-01-1997
			DE	69528153 D1	17-10-2002
			DE	69528153 T2	05-06-2003
			EP	0738408 A1	23-10-1996
			ES	2178664 T3	01-01-2003
			WO	9519019 A2	13-07-1995
			JP	9507326 T	22-07-1997
			US	5918960 A	06-07-1999

EPO FORM P4459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82